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## **Women and Renewable Energy in a South African Community: Exploring Energy Poverty and Environmental Racism**

By Khayaat Fakier<sup>1</sup>

### **Abstract**

This paper argues that the rights of women to be included in decisions about energy use and their experiences with energy use are ignored. Using an eco-feminist perspective this article explores how the rhetoric of 'renewable energy for the poor' which bypasses women's voices and experience in domestic uses of renewable energy result in reverse outcomes of pro-environmental policy for the poor, as well as, for society in general. Drawing on semi-structured interviews with 20 women in Lwandle, in South Africa, the article identifies three themes reflecting on how the women experience the installation of solar water heaters. The first theme discusses the exclusion of women from consultations as an endurance of environmental racism and sexism. Secondly, the findings reflect on how domestic labour and costs increase in the face of dysfunctional SWHs. I also discuss how the decision to install these geysers in shared bathrooms overrides residents' expressed needs for privacy and dignity. The third theme discusses the continued use of fossil fuels such as paraffin and its implication for household safety, expenditure and the environment. The paper concludes with the enjoinder that women be included in consultations and planning of pro-environmental projects from the start.

*Keywords:* energy poverty, environmental racism, sexism, South Africa, renewable energy, women in South Africa, ecofeminism

### **Introduction**

South Africa is the 14th biggest emitter of greenhouse gases in the world, and has embarked on a process of reducing its impact on the environment by expanding the green economy – that is, creating more jobs by producing environmentally friendly products and, simultaneously, encouraging the consumption of such products by businesses, citizens and consumers (Borel-Saladin and Turok, 2013). Cock (2014, 223), however cautions against seeing the green economy as the solution to South Africa's environmental ills and argues that any initiative to reduce the use of carbon-based fuels should "meet the needs of the majority rather than the profit of a few". Thus, initiatives such as fitting solar powered heaters and geysers, in compliance with new building codes should include "community participation and control" (ibid: 224).

This article looks at the installation, and, more specifically, the use of Solar Water Heaters (SWHs) in a township called, Lwandle, in the Western Cape Province of South Africa. It focuses

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on women in Lwandle, specifically, who as care givers and providers of domestic labour, are primarily responsible for the maintenance and renewal of households. Domestic labour, as it involves cleaning, cooking and caring for others, relies fundamentally on energy. Inadequate access to energy in poor households makes women's tasks more difficult and strains already stretched budgets to breaking point. The installation of SWHs in Lwandle in the 1990s, it is argued, was an outcome of community consultation (Du Toit 2010; SEA 2009 and SouthSouthNorth Africa 2008) in a township populated by a "responsive and responsible citizenry" (Murray and Witz 2013: 58).

This paper argues that the rights of women to be included in decisions about energy use and their experiences with energy use are ignored. Using an eco-feminist perspective, which argues that there are strong "connections between the unequal status of women and the life-threatening destruction of the environment" (Sturgeon 1997:28) this article explores how the rhetoric of 'renewable energy for the poor' which bypasses women's voices on domestic uses of renewable energy result in reverse outcomes of pro-environmental policy for the poor as well as for society in general.

### **Energy Poverty, Environmental Racism and Eco-Feminism**

Energy poverty, commonly refers to "a lack of access to adequate, reliable, affordable and clean energy carriers and technologies for meeting energy service needs for cooking and those activities enabled by electricity to support economic and human development" (Pauchari and Rao 2013: 205). Those who experience energy poverty also experience inadequate access to public services, water and sanitation and commonly live in economically depressed communities. African women in communities such as those in South Africa, do not only shoulder a disproportionate burden to care for their households and communities (Fakier and Cock 2009), but also face gender-, class-, and race-based exclusion from decision-making and control over access to and the use of public resources (Kehler 2001). The gendered and racialized conditions of 'poor environments' in African townships has its origins in the environmental racism of our apartheid past (Ruiters 2001) This pattern of environmental racism continues despite our Bill of Rights proclaiming the right of all "to live in an environment that is not harmful to health or wellbeing" (Section 24 of the Bill of Rights). Many African South Africans continue to live on the most damaged land or under-serviced townships, in polluted neighbourhoods adjoining working or old mines, next to coal fired power stations, steel mills, incinerators and waste sites or polluting industries, without adequate services of refuse removal, water, electricity and sanitation (Fakier and Cock 2018).

One of the outcomes of energy poverty is a reliance on unsafe, expensive and ecologically harmful energy sources, such as wood fires or the use of paraffin for heating and cooking and unsafe connections to the national electricity grid. Access to energy, the sustainable use of energy and a shift to renewable sources of energy are implicated in and reproduce racial and gender inequality. Energy-intensive, polluting industries and middle-class families consume more energy and contribute the most to environmental damage. Yet, the domestic and, small-scale income-generating activities of women who use fossil fuel to cook, make charcoal and grill meat for sale become the target of 'sustainable energy use' projects. However, as Annecke (2002:14) suggests, in contrast to high-earning families,

*“[the] poor, who are arguably least responsible for greenhouse gas emissions, who do not own cars but use public transport, who seldom own refrigerators, and who frequently use just one source of energy for cooking, space heating and light, are being selected to use expensive, rudimentary solar technology, which does not satisfy the most pressing need: heat for cooking”.*

Poor communities in South Africa, that have the least access to energy and which are the most affected by increases in energy prices, have become the target market for renewable energy projects rolled out by the government. Azimoh, et al (2015a) argue that the views and experiences of individuals who use solar technology are neglected in the rollout of government-supported solar heating programme. Thus, women's engagement with renewable technologies is often ignored and leads to a bias against training and supporting women to use SWHs. In developing countries, Nieuwenhout, et al (2001) point out, men are trained to use these geysers as men are more likely to enter loan agreements to pay for the provision of these products. Neglecting the influence women have on the implementation of such projects and how it affects their daily lives is a significant gap in studies on renewable energy because in the South African context, as in many other parts of the world, household labour rests on the shoulder of women.

The term 'ecofeminism', coined by Francoise d'Eaubonne in 1974, arose from the recognition that women's ecological knowledge and connection to nature are needed to combat not only the ecological crisis, but also the system of male dominance that gave rise to it (MacGregor, 2006:18). Ecofeminism has many variants, yet generally ecofeminists agree that the domination of women and nature are connected. Ariel Salleh, for example argues that women's domestic labour is work that “mediates nature for men” (Salleh, 1997:75). An eco-feminist framework suggests that women's experience in the production and provision of household labour such as cooking and cleaning could mean that they are more positioned to promote a new narrative about our relationship with nature; a re-valuing of nature as more than a means for economic activity in the short-term but rather as a long-term concern for survival. (Fakier and Cock, 2018)

Along the lines of an eco-feminist approach, Mohlakoan and Dugard (2009) argue that the access to basic services require a rights-based approach rather than one which is profit-driven. Ironically, they suggest, policy on the provision of water and electricity services is especially resistant to women's views on essential needs of households. This paper argues that a misrecognition of the role that women play in human-nature relationships is detrimental to households, communities and has long-term implication.

### **Researching Solar Water Heaters in Lwandle**

In March 2015, semi-structured interviews, lasting between 60 and 90 minutes, were conducted with twenty women in Lwandle. The sample was drawn from an area which first received SWHs in 1995. Observation of the area 20 years later, in February 2015, showed that some houses still had SWHs located on their roofs, while at others the SWHs were noticeably absent. The interviews were conducted in the homes, often in the kitchens, of the participants. Kitchen-based interviews turned out to be very useful as the presence of, for example, paraffin stoves, prompted elaboration on the different sources of energy employed by a particular household. In five of the households two women; one older and one younger, were interviewed. Older women recalled the time when housing in Lwandle was converted from hostels to family housing (discussed below) while the younger women were more outspoken about what was

currently happening in the community. Amongst the participants, there was at first some reticence to talk about their or their neighbours' missing geysers. However, most of the women knew that scrap metal companies paid approximately ZAR4 000 (330USD in 2015) for such geysers<sup>2</sup>. Consent for publishing the interview material was given and the names of the participants were changed to preserve their anonymity.

In general, the households comprised five to seven members. Unemployment in Lwandle is high<sup>3</sup>, with some members leaving their homes to work elsewhere, for example, in Johannesburg, indicating the endurance of migration patterns in South Africa. Where women are employed (eight in total) four of them were working as domestic workers, two had clerical positions and the other two worked for vendors. Two women traded as vendors but reported little to no profit derived from this activity. Household incomes reported by the participants ranged between R2 000 to R4 000 a month and were predominantly drawn from social grants. The households where SWHs are still present are amongst the highest income receiving households.

## **Lwandle**

Lwandle, a community located about 50 km from Cape Town close to the southern tip of South Africa, started off in the 1950s as a place where migrants – working in a nearby canning factory and on farms – were housed in migrant hostels. The name 'Lwandle', which means 'sea' or 'beach', has an ironic connotation since at the time of its establishment its African inhabitants were not allowed on the nearby beaches reserved for Whites. From 1993 the migrant hostels of Lwandle were gradually converted into family housing, formally providing housing for families and recognising that the previous men-only hostels were also occupied by women and children<sup>4</sup>. The Hostels to Home project involved the renovation of barracks-like dormitories into units deemed suitable for housing families. Each 4-room unit is separated from the next by a bathroom, which is shared by the two family units.

In 2000, the reconstruction project established the Lwandle Migrant Labour Museum, which currently encompasses a number of offices and one preserved hostel block<sup>5</sup>. The reconstruction of the museum space, which aimed to display how the regulatory power of apartheid impacted on the daily lives and aspirations of people (Murray and Witz 2013), also symbolises how the hostel system was resisted and transformed through the activities of men and women who formed households despite the oppressive circumstances. Lwandle was recognised as a community, not only through the establishment of the museum, although the museum receives much attention, but through the acknowledgement of this space not merely as a holding camp of production but also as a township where reproduction takes place. In other words, Lwandle was more than a 'camp' for migrants; it had a vibrant social life where adults and children, men and women worked and lived. As Murray and Witz (2013:58) describe it,

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<sup>22</sup> When the geysers were installed in 1995, their cost was estimated to be between R3 500 and R4 500.

<sup>3</sup> Murray and Witz (2013) and Laakso (2011) relate the high local unemployment rate to the closing of canning plants. Ironically, the stream of labour to these plants is at the root of how Lwandle was established. See next section.

<sup>4</sup> See Ramphela (1993) for the evolution of migrant hostels as men-only spaces in the Western Cape to 'bedholds' where women and children also lived. See also Jones (1993) for the migration of children to migrant hostels.

<sup>5</sup> The structure of the Lwandle Labour Migrant Museum went through different iterations and constructions accompanied by intense negotiations and tensions. The present form of the museum was realised only in 2009.

*“... [N]ot only were the hostels being turned into homes, but schools were built, a library and new community hall were constructed, and the ruins of a burnt-out beer hall transformed into a centre for arts and crafts; this all signalled the development of new notions of a public in Lwandle based upon ideas of family, permanence and a responsive and responsible citizenry”.*

The notion that Lwandle residents are a “responsive and responsible citizenry”<sup>6</sup> emerged from the various discussions and consultations which informed the reconstruction of this post-apartheid community. This idea implies also a community able to engage in decisions for its collective benefit and indicates the necessary ingredients for energy democracy. The disjuncture between what was possible and what has transpired around renewable energy provision revolves around the exclusion of women from consultation and will be discussed further.

## **Findings**

This section discusses the findings drawn from the interviews. It is structured along three themes which emerged as the common concerns for the women interviewed. The first is a discussion of the lack of consultation of women before the installation of SWHs in Lwandle. The second reflects on women’s experiences in using faulty SWHs, missing, presumed stolen SWHs and also how the lack of privacy of shared bathrooms influence the experience of using SWHs. The third theme portrays women’s continued use of carbon-based energy sources, and how it impacts on household labour, health and expenses.

### *Neglecting women in consultation*

Energy democracy describes processes whereby access to and the control of energy sources are decentralised and moved to communities for the benefit of all. In other words, it has the potential to realise energy sovereignty; the right of communities to have “access to sufficient energy within ecological limits from appropriate sustainable sources for a dignified life.”(Friends of the Earth, 2009:n.p.) The installation of Solar Water Heaters (SWHs) seems the ideal solution to energy-poverty in South Africa, for poor households who use 40 to 50% of electricity on heating water, while at the same time reducing reliance on fossil-fuel energy.

However, from the interviews it emerged that very little consultation went into the decision to install these water heaters. Some of the older women said that they had heard that there was a public meeting to discuss geysers and jobs, while others said that they had heard that men attended these meetings. None of them had attended, been invited or have even heard of women attending such meetings. Instead, they stated that they or their parents “were told” that they would be getting hot water services in the form of SWHs. In contrast, reports state that SWHs were installed after consultative meetings where “the community itself” identified needs such as “jobs<sup>7</sup>, privacy, toilets and hot water”. (Du Toit 2010: 91; SEA 2009:30 and SouthSouthNorth Africa 2008:2).

The SWH project operates on a *fee-for-service* model whereby households pay a monthly fee for the *service* (or provision) of hot water, while the energy company retains ownership and responsibility to maintain the unit. (Laakso 2011. See also Azimoh, et al, 2015b for similar payment arrangements as part of a rural electrification programme and Mohlokoan and Dugard 2009). The initial service fee was R17 and rose to R24 per month in 1993. (SEA 2009) while the

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<sup>6</sup> Murray and Witz (2013:59)

<sup>7</sup> The need for jobs came up time after time in the interviews.

SWH installation programme in Lwandle was one of the first of its kind, the South African government adopted the Free Basic Alternative Energy (FBAE) policy in 2006. In general, this policy prescribes the provision of subsidised solar heating systems (not necessarily, isolated to water heating only) to indigent households. Other studies have shown that similar to Lwandle, the subsidies are inadequate and this form of energy is still unaffordable. (Buscher 2009; Mohlokoan and Dugard 2009) However, more notable was that while households continue to pay for this service, none of the women were aware of a fee being levied for this service even as their accounts with the municipality continue to fall deeper into arrears. Some of the women showed us their municipal account statements. The statements included a monthly amount for the geysers. As most of the households could not afford these payments they ignored the statements and denied any knowledge of what the fee entails.

One of the main implications of what appears to have been partial consultation, at best, is that the most dire energy need identified by the women interviewed, that is *energy for cooking purposes*, had not been addressed<sup>8</sup>. This aspect of energy poverty adds to the economic burden<sup>9</sup> of these households and illustrates the endurance of environmental racism in poor African communities. This form of discrimination, the research in Lwandle suggests, also has a gendered dimension. Not only does the lack of consultation with women, deny them “germane rights to [gender] equality and non-discrimination<sup>10</sup>” it adds to their domestic burden and deepens their dependence on fossil fuels as the rest of this article will show.

### **Research Theme 3: Women’s experiences in using SWHs in Lwandle**

Two of the women participants indicated that SWHs make their lives easier in the absence of any other means of heating water.

*“Even if you have no electricity you are [still] able to wash your body and being able to have hot water to wash your dishes and do any other thing that needs hot water in your household” (Nontso, 58 YEARS OLD) and “one thing I know is that if we were asked if we wanted the geysers we wouldn’t have known what they will be used for, but I am grateful that we have been introduced to geysers because they are so helpful” (Mary, 43 YEARS OLD).*

All the women interviewed stated that SWHs, when operating properly make life easier and are used for heating water for showers and household cleaning. However, most of them do not benefit from this service for two reasons; the SWHs are missing or malfunctioning. The only reason given why households do not have SWHs is that they were stolen; either when household members were sleeping or away from their homes. Two motives are speculated on for these thefts – the need for cash to buy drugs or to support low/non-existent incomes. A number of women referred to the rumour that scrap metal companies are willing to pay up to R4 000 for dismantled SWHs – a significant amount of money given the low incomes in the area. It is therefore not surprising that some of the women suggest that providing jobs and ensuring security in Lwandle are more pressing than environmental concerns or energy needs.

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<sup>8</sup> See also Annecke 2000 and 2002

<sup>9</sup> The cost of additional sources of energy is discussed later under the theme:

<sup>10</sup> Mohlokoan and Dugard (2009: 551)

The need for jobs were stressed when this community was first ‘consulted’ about the installation of SWHs (Du Toit 2010; SEA 2009 and SouthSouthNorth Africa 2008) and even earlier when plans to reconstruct Lwandle were raised. This need is expressed in a context of high unemployment, with the narrowly defined unemployment rate at 26% (Statistics South Africa 2017). For black women in South Africa, unemployment is even higher at 51%. One of the elements of poverty, the high unemployment rate of women has implications for their ability to negotiate their relationships and their responsibilities in their households and communities (Fakier and Cock 2009).

In the households where the SWHs remain, all of the women report problems with the functioning of the units and in three households they no longer use the SWHs. The two main problems they identified were that the heaters leak and that they do not heat water. Leaking SWHs causes damp and warping of floors; but more importantly, also water wastage. One woman said that the leaking was so bad that they disconnected the geyser (Khunji: 37 year old wonam). The effect of constant dampness on the health of household members was also commented on by the women.

Water wastage is of great concern in the Western Cape province of South Africa, where we have since 2015 experienced the longest drought in 35 years (Oxfam 2017). A complicated mix of factors – which include changing weather patterns, the impact of climate change and structural dysfunction – result in water scarcity. For poor households this means high food prices and even further constraints on domestic tasks. In a context where one of the symptoms of structural dysfunction is the inability to curb and resolve the bursting of water pipes, even less attention is given to individual household leaks. Notwithstanding structural concerns, poor, African communities, such as Lwandle, are constantly blamed for water wastage (Groundup 2018) further intensifying environmental racism in South African society.

The second problem experienced with the geysers was that the heating capacity of the SWHs is limited and non-existent in winter when sunshine hours are reduced. Du Toit (2010: 91) also discusses this problem experienced during winter in the Western Cape and suggests that *“this complaint could possibly have been avoided if the perception had not been created amongst residents that they would have systems with electrical back up installed”*. However, being without hot water for significant periods of time is more than a problem of misperception; it has real impact on the domestic labour of women and cost implications for households as a whole, and forces women to incur additional costs and to continue using environmentally destructive sources of energy.

As discussed above the conversion of migrant hostels to family-style housing included the construction of bathrooms, fuelled by the SWHs, which are shared between two households. This means that in Lwandle all each house shares a geyser with a neighbour. In the mornings when five to ten people vie to use the bathroom to prepare for the day, the hot water, where available, quickly runs out. There is not enough hot water for bathing purposes, and even less for cleaning, causing strife amongst neighbours about who are able to have warm showers and about the hygiene of the bathrooms. In relation to SWHs the women interviewed reiterated the need for private bathrooms. Zithini, a 54-year old woman says,

*“If only with the money they spent on geysers for the hostels they asked us [what we need] I want to have my own bathroom and privacy because some of our neighbours do not flush the toilet or clean the bathroom”.*



As noted above, *privacy and toilets* were of the pressing needs expressed by Lwandle residents (Du Toit, 2010, SEAP 200X and SouthSouthNorth Africa 2008). The need for privacy is entangled with memories of the migrant hostel era when there were no proper washing facilities and bucket toilets were used. Toilets had no doors separating one toilet from the next, or shielding users from the view of others and waste accumulated during the course of the day (or longer) until it was collected. Discussions around putting the bucket toilets of the erstwhile migrant hostels on display in Lwandle Migrant Labour Museum, evoked heated conversations. Many residents felt that displaying the indignities of the migrant labour system continues to shame them. In this vein, Lumka (43 years old) says,

*“It’s so sad, hey? We are living like migrant workers during the apartheid days, privacy in toilets we still don’t have it. Showering with many people [using] one shower is like evading one’s privacy. We’re living like squatter camps still in these hostels.”*

Dugard (2008: 593) argues that “sanitation is dignity”. The lack of privacy in shared bathrooms in Lwandle is tied into the indignity of sharing bathrooms, which conjures up our apartheid past and reflects the endurance of environmental racism. SWHs are connected for use in shared bathrooms only, which does not only exacerbate privacy concerns of the migrant hostel era but also means that hot water, when available, is carted into buckets into the houses for washing dishes and general cleaning by women. The women expressed little faith that reporting concerns over shared bathrooms and the difficulty of using hot water for cleaning will have any real effect. This disillusionment stems from their disappointment with the lack of response from municipal officials and the police to their official complaints about malfunctioning and stolen SWHs. An implication of overall dissatisfaction with the functioning of SWHs is that on the whole the women interviewed are not supportive of SWHs as a solution to hot water needs. Instead, they would prefer conventional electric geysers because they are seen to be more reliable and not necessarily more expensive than their current forms of heating water.

### **Reliance on fossil fuels for energy in Lwandle households**

A study by Azimoh, et al (2015) highlights that the installation of SWHs has little direct economic benefit for households and that coupled with the problems experienced with the technology, public sentiment towards solar energy is negative. The misrecognition of households’ electricity needs and how individuals experience green technology results in a continued reliance on fossil fuels. In Lwandle, SWHs do not eradicate household dependence on fossil fuels. It addresses only one of the energy needs in energy poor household, that of heating water. However, heating water forms a big part of household energy use; thus SWHs have the potential to ameliorate environmental damage. (SEA 2009, p.11) Laakso (2011) drawing on the proposals by the City of Cape Town notes that “solar water heaters are seen as one the most promising ways of decreasing the demand for coal powered electricity (City of Cape Town, 2006: 47-49, City of Cape Town, 2007b: 7, 51) and are gradually also seen as a possible way of improving access to clean energy services”. However, in a context where needs and experiences of communities are ignored, and renewable energy projects are imposed from above, i.e., undemocratically, the installation of SWHs merely functions as a means to alleviate one of the energy needs of households rather than addressing environmental concerns. For the women living with faulty SWHs and in environments

where joblessness and crime have a real impact on whether they have SWHs; the positive environmental impact SWHs may have is outweighed by a continued reliance on fossil fuels.

Overall, the installation of SWHs does not translate into effective renewable energy use. A combination of energy applications is still employed and reported by the participants, with solar-based energy a negligible element of this mix. Predominantly the households interviewed continue to use electricity and paraffin to warm water in kettles and on electric and paraffin-fuelled stoves. Heating water in this way is time-consuming, rests on the shoulders of women and extends their domestic labour even further<sup>11</sup>.

These forms of energy have immediate health and safety implications for poor households, in addition to the effects on the environment. Risks to households resulting from paraffin use are well recorded and include indoor pollution, respiratory illnesses, poisoning and the risk of fire. (Mehta and Shahpar 2004; Norman, et al 2007; Mohlokoan and Dugard 2009 and Seedat, et al 2009) For women these risks are especially high given their close proximity to burning paraffin while they tend to the heating of water. Mohlokoan and Dugard (2009:548) state;

*“According to Cecelski the World Bank has classed indoor air pollution among the four most critical global environmental problems in developing countries. The direct impact is respiratory infections in children and chronic lung disease in non-smoking women”*

Kimemia, Vermaak, Pachauri and Rhodes (2014) argue that it is only when households move out of energy poverty that the dangers of paraffin use are averted. The overall risk of electricity usage in townships is evident in the unsafe connections made to the grid because of limited numbers of electricity points. When these risks become real, women also have the responsibility to care for those harmed.

The costs of using a mix of energy sources are also financial. An estimated twenty per cent of poor households' energy costs are for buying paraffin. (Laakso 2013) Time and money are spent to fix faulty SWHs. Lumka, Thabisa and Sandiswa reported their malfunctioning SWHs to the municipal offices a number of times. Because their complaints were ignored they either fixed it themselves or paid someone to do it for them. For these women, having SWHs does not mean time-, nor cost-efficient access to water heating. In addition to the time going into heating water, their expenditure on electricity and paraffin also goes up. Given, the low incomes of these households and the women's roles in ensuring the distribution of resources in households, SWHs increased the domestic burden of the women interviewed.

The meaning that SWHs hold for the participants in this study is limited to its water heating ability and its attendant impact on their household labour, health and finances, rather than its contribution towards reducing our carbon load. This is not surprising since questions probing participants' understanding of carbon emissions, its impact on the environment and why this should be curbed or stopped, were met with responses which indicated a general lack of knowledge about how SWHs could accomplish a greening of society. Instead what the interviews tell us is that household energy use in Lwandle is only marginally more environmentally friendly than if they had no SWHs.

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<sup>11</sup> Similarly, carrying water from shared bathrooms, as discussed above, adds to the multitude of tasks in Lwandle households.

### **The necessity of women's voice in renewable energy projects**

The right to electricity (for instance to heat water) is not explicitly stated in South Africa's Bill of Rights. However, as argued by Mohlakoan and Dugard (2009) it can be inferred from the right to safe and adequate housing. Furthermore, the right to 'an environment that is not harmful to health or well-being' also enshrined in the Bill of Rights, implies also ecologically sensitive provision of services. In the reconstruction of Lwandle, various contestations and resolutions about its future, provided for the emergence of 'responsive and responsible citizens' (Murray and Witz 2013:58-59). Lwandle community tried to subvert the relics of an exploitative past and transform itself into a community in control of its future. However, limited consultation and partial attention to the expressed needs for jobs, privacy and hot water, undermined what could have been a democratic way of rebuilding homes for Lwandle residents. As a result, the unfulfilled demand for jobs and privacy appears to override the value the SWHs have for household reproduction. Instead the installation of SWHs as mechanisms to access heated water places additional demands on women's time and limited resources and does very little for environmental awareness and even less for the environment.

MacGregor (2011) argues that the current state of the environment requires individuals and households to take responsibility and action to preserve and protect the environment. This demand places particular and additional strain on women who continue to bear the brunt of domestic labour. In addition, what eco-citizenship requires, is not only the planning and infrastructure that an ecologically sensitive state could provide, but also the recognition and involvement of women as responsive and responsible citizens able to influence decisions. Little awareness of ecofeminist thinking came through in the interviews; even less so of possible connections to an approximation of eco-citizenship. However, what the interviews illustrate is how neglect of women's voices result in reverse outcomes of a pro-environmental policy. The voices of women are heard, mostly after the implementation of policies and even then, the justice they receive is too little or too late<sup>12</sup>.

Instead of combatting environmental degradation, the endurance of environmental racism and sexism implicit in the exclusion of African women from environmental policy, increases the carbon load in South Africa and impacts negatively on domestic labour and expenses. Thus, the means and methods of drawing in women into such policy conversations have to be considered and built into the early stages of environmental projects. Domestic labour, inadequate basic services and the high cost of living lay disproportionately heavily on the shoulders of most African women in South Africa. However, not drawing in their voice and experience on human-nature relations will be a cost to all of us.

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<sup>12</sup> See Dugard 2008 and Mohlakoan and Dugard 2009 which discuss legal case where gender discrimination as an important factor was either dropped or legal victory was achieved at the end of the life-time of women activists.

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